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| APPLICATION NO.           | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---------------------------|-------------|----------------------|---------------------|------------------|
| 09/903,983                | 07/12/2001  | Stephen J. Myers     | DP-305003/ DEP-0210 | 9424             |
| 22851                     | 7590        | 07/17/2006           | EXAMINER            |                  |
| DELPHI TECHNOLOGIES, INC. |             |                      | HANDAL, KAITY V     |                  |
| M/C 480-410-202           |             |                      | ART UNIT            |                  |
| PO BOX 5052               |             |                      | PAPER NUMBER        |                  |
| TROY, MI 48007            |             |                      | 1764                |                  |

DATE MAILED: 07/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/903,983

Applicant(s)

MYERS ET AL.

Examiner

Kaity Handal

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 September 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Drawings*

The drawings were received on 9/21/2005. These drawings are acceptable.

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 21-26, 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Kruger (EP 992,659 - corresponding to US 6,555,570).

With respect to claim 21, Kruger discloses an exhaust system for an internal combustion engine comprising: a shell having an outer wall and an inner wall, wherein the shell forms a bushing 59 defining an opening through and connects the outer wall and the inner wall; and an oxygen sensor 60 disposed through the bushing 59 such that a portion of the oxygen sensor 60 extends into an interior portion of the shell (see, for example, Fig. 2).

With respect to claim 22, Kruger discloses that the bushing 59 has a flat surface on an end opposite the inner wall (see, for example, Fig. 2).

With respect to claim 23 and 30, Kruger discloses provision of insulation disposed between the outer wall and the inner wall and in physical contact with the bushing 59 (see, for example, Fig. 2).

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With respect to claim 24, Kruger discloses that the bushing 59 is in the rounded portion of the shell (see, for example, Fig. 2).

With respect to claim 25, Kruger discloses that the shell is a double walled end-cone (see, for example, Fig. 2).

With respect to claim 26, Kruger discloses that threads are formed in the bushing (see, for example, col. 9, lines 1-2 and Fig. 2).

Instant claims 21-26, 30 structurally read on the apparatus of Kruger.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kruger (EP 992,659 - corresponding to US 6,555,570) in view of Matsushima (5,615,551).

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The apparatus of Kruger is substantially the same as that of the instant claims, but is silent as to whether the oxygen sensor may be located at the end-cone and at a specific angle as claimed.

However, Matsushima discloses provision of an oxygen sensor 36 being positioned in the endcone of the shell of catalytic converter unit and extending through said bushing 34 (Figs. 2- 5), wherein said oxygen sensor 36 is positioned within said catalytic converter component at an angle less than 90 degrees to the centerline of the catalytic converter component (Fig. 3, col. 3, lines 1-12).

However, at the time of the invention was made, it would have been obvious to one skilled in the art to place the oxygen sensor of Kruger at the endcone or at a specific angle as taught by Matsushima since positioning the parts of the apparatus is no more than a design choice, and well within the knowledge of one skilled in the art as evidenced by Matsushima and since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

5. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kruger (EP 992,659 - corresponding to US 6,555,570) in view of Nishio et al (4,883,643).

The apparatus of Kruger is substantially the same as that of the instant claim, but fails to disclose provision of a gasket.

However, Nishio et al discloses provision of a gasket 16 for preventing leakage of the exhaust gas from between the sensor and the wall.

It would have been obvious to one having ordinary skill in the art to provide a gasket as taught by Nishio et al in the apparatus of Kruger for preventing leakage of the exhaust gas from between the sensor and the wall.

6. Claims 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kruger (EP 992,659 - corresponding to US 6,555,570) in view of Matsushima (5,615,551) and Nishio et al (4,883,643).

The same comments with respect to Matsushima and Nishio et al apply.

7. Claims 21-28, 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsushima (5,615,551) in view of Kruger (EP 992,659 - corresponding to US 6,555,570).

With respect to claims 21, 23, 25, 27-28, 30, Matsushima discloses an exhaust system for an internal combustion engine comprising:

- a catalytic converter unit 10;

- a bushing 34 provided in a shell wall of end cone of said catalytic converter unit;
- and an oxygen sensor 36 positioned within exhaust flow of the catalytic converter unit and extending through said bushing 34 (Figs. 2-5), wherein said oxygen sensor is positioned in said endcone at an angle less than 90 degrees to the centerline of the catalytic converter unit (Fig. 3, col. 3, lines 1-12).

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The apparatus of Matsushima is substantially the same as that of the instant claim but fails to disclose provision of a double walled shell/endcone with insulation therebetween.

However, Kruger discloses provision of a catalytic converter unit includes an insulated wall construction having an inner wall spaced from an outer wall.

It would have been obvious to one having ordinary skill in the art to provide an insulated wall construction of Kruger in the apparatus of Matsushima since such insulated wall construction would provide a good thermal insulation as taught by Kruger.

With respect to claims 22, 26, Matsushima discloses that the bushing has threads 44 disposed through the shell wall (col. 4, lines 15-24, Figs. 3-4); and a substantially flat surface 50 (col. 2, lines 62-67, Figs. 3-4).

With respect to claim 24, Kruger discloses that the bushing 59 is in the rounded portion of the shell (see, for example, Fig. 2).

At the time of the invention was made, it would have been obvious to one skilled in the art to place the oxygen sensor of Matsushima at the rounded portion of the shell as taught by Kruger since positioning the parts of the apparatus is no more than a design choice, and well within the knowledge of one skilled in the art as evidenced by Kruger and since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikçe, 86 USPQ 70.

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8. Claims 29, 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsushima (5,615,551) in view of Kruger (EP 992,659 - corresponding to US 6,555,570) and Nishio et al (4,883,643).

The same comments with respect to Kruger and Nishio et al apply.

### ***Response to Arguments***

#### **Drawings**

Objection made to the drawings is withdrawn by the examiner due applicant's amendment.

#### **Claim Objections**

Objections made to the claims are withdrawn by the examiner due applicant's amendment.

#### **35 USC 112 Rejection**

Rejection made to the claims 21-32 under 35 USC 112 is withdrawn due applicant's arguments and amendments.

#### **Prior Art**

In response to applicant's argument that Kruger's bush 59 is welded to the shell rather than being formed by the shell. Examiner respectfully disagrees. Applicant seems to be arguing the method of making the bushing rather than the structure itself. Figure 10 illustrates clearly that bush 259 is formed through the shell (col. 13, lines 15).

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections



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are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kaity Handal whose telephone number is (571) 272-8520. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

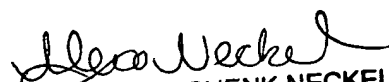
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KH



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6/29/2006

  
ALEXA DOROSHENK NECKEL  
PRIMARY EXAMINER